CLAIMS

1. Compounds of the formula I:

$$R^3$$
 R^4
 R^5
 R^2
 R^6

in which:

n is an integer chosen from 1, 2 and 3;

Y represents O; N-OR⁹, in which R⁹ represents H or a saturated hydrocarbon-based aliphatic group; CR¹⁰R¹¹, in which R¹⁰ and R¹¹, which may be identical or different, represent H or a saturated hydrocarbon-based aliphatic group;

R¹ and R², which may be identical or different, represent H or a saturated aliphatic hydrocarbon-based chain; or alternatively R¹ and R² together form an optionally substituted saturated aliphatic hydrocarbon-based chain;

the radicals R³ and R⁴, which may be identical or different, take any of the meanings given above for R¹ and R², or alternatively

R¹ and the group R⁴ borne by the carbon alpha to CR¹R² represent nothing and a double bond links the CR¹R² carbon to the alpha CR³R⁴ carbon; or alternatively one of the radicals R¹ and R² forms with one of the radicals R³ and R⁴ an optionally substituted saturated or unsaturated aliphatic hydrocarbon-based chain; one of the radicals R⁵ and R⁶ represents W, and the other represents Z which is chosen from a saturated or unsaturated aliphatic hydrocarbon-based radical; an optionally substituted, saturated, unsaturated and/or aromatic carbocyclic or heterocyclic radical; a radical –alk-Cy, in which alk represents an alkylene chain and Cy represents an optionally substituted saturated, unsaturated and/or aromatic heterocyclic or carbocyclic radical;

W represents $-XL-CO_2R^7$; -X-L-Tet, in which X and L are as defined below and Tet represents optionally substituted tetrazole; in which

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L represents a saturated or unsaturated aliphatic hydrocarbon-based chain, which is optionally substituted and/or optionally interrupted by optionally substituted arylene;

X represents O; NR⁸, in which R⁸ represents H; a saturated aliphatic hydrocarbon-based group; a group –CO-R' or –SO₂-R', in which R' takes any of the meanings given below for R⁷ with the exception of H; or R⁸ represents an optionally substituted aromatic carbocyclic group; or X represents S(O)_m, in which m is chosen from 0, 1 and 2;

R⁷ represents H; a saturated or unsaturated aliphatic hydrocarbon-based group; an optionally substituted, saturated, unsaturated and/or aromatic carbocyclic group; an optionally substituted, saturated, unsaturated and/or aromatic heterocyclic group; and the pharmaceutically acceptable derivatives, salts, solvates and stereoisomers thereof, and also mixtures thereof in all proportions.

- 2. Compounds according to Claim 1, characterised in that R¹, R², R³ and R⁴ are independently chosen from a hydrogen atom and alkyl.
- 3. Compounds according to either of the preceding claims, characterised in that n represents 1 or 2.
- 4. Compounds according to one of the preceding claims, characterised in that R⁷ represents H or alkyl.
- 5. Compounds according to any one of Claims 1 to 3, characterised in that W represents -X-L-Tet, in which Tet represents optionally substituted tetrazolyl.
- 6. Compound according to one of the preceding claims, characterised in that L represents alkylene, alkenylene or -alk°-Ar°, in which alk° represents alkylene and Ar° represents optionally substituted phenylene.
- 7. Compounds according to Claim 6, characterised in that L represents

$$-CH_2$$

- 8. Compounds according to one of the preceding claims, characterised in that Z represents alkyl optionally substituted by one or more radicals T; alkenyl optionally substituted by one or more radicals T; alkynyl optionally substituted by one or more radicals T; cycloalkyl optionally substituted by one or more radicals T; cycloalkyl optionally substituted by one or more radicals T; monocyclic or bicyclic heteroaryl optionally substituted by one or more radicals T; -alk¹-Cy¹, in which alk¹ represents alkylene, preferably CH₂ and Cy¹ represents phenyl optionally substituted by one or more radicals T, or alternatively Cy¹ represents cycloalkyl, optionally substituted by one or more radicals T; T being chosen from optionally halogenated alkyl; optionally halogenated alkoxy; a halogen atom; and cyano.
- 9. Compounds according to Claim 1, characterised in that n = 1; R^1 , R^2 , R^3 and R^4 represent a hydrogen atom; Y represents O; R^5 represents (C_1 - C_{10})alkyl; (C_2 - C_{10})alkynyl; -alk¹-Cy¹, in which alk¹ represents (C_1 - C_3)alkylene and Cy¹ represents phenyl optionally substituted by one or more radicals T, in which T is as defined in Claim 7; R^6 represents W, in which X represents O or NH; and L represents (C_1 - C_3)alkylene.
- 10. Compounds according to Claim 8 or 9, characterised in that X represents NH; and R^5 represents (C₁-C₁₀)alkyl.
- 11. Compounds according to Claim 8 or 9, characterised in that X represents O; and R^5 represents (C_1-C_{10}) alkyl; (C_2-C_{10}) alkynyl; and $-alk^1-Cy^1$, in which alk^1 represents (C_1-C_3) alkylene and Cy^1 represents phenyl.
- 12. Compounds according to Claim 8 or 9, characterised in that Z represents alkyl, optionally substituted by cyano; phenyl, optionally substituted by trifluoromethyl, with halogen, with alkyl or with alkoxy; phenylalkyl, in which phenyl is

substituted by one or more halogen atoms, alkyl or alkoxy; alkynyl; cycloalkyl-alkyl.

13. Compounds according to Claim 1, chosen from

and the pharmaceutically acceptable derivatives, salts, solvates and stereoisomers thereof, and also mixtures thereof in all proportions.

14. Pharmaceutical composition comprising an effective amount of at least one compound chosen from the compounds of the formula I according to any one of Claims 1 to 13 and/or the pharmaceutically acceptable derivatives, salts, solvates

and stereoisomers thereof, including mixtures thereof in all proportions, in combination with at least one pharmaceutically acceptable vehicle.

- 15. Medicament comprising at least one compound of the formula I according to any one of Claims 1 to 13 and/or the pharmaceutically acceptable derivatives, salts, solvates and stereoisomers thereof, and also mixtures thereof in all proportions, and optionally one or more excipients and/or adjuvants.
- 16. Use of a compound of the formula I according to any one of Claims 1 to 13 and/or the pharmaceutically acceptable derivatives, salts, solvates and stereo-isomers thereof, including mixtures thereof in all proportions, for the preparation of a medicament for the treatment of an individual suffering from a disease or condition mediated by an insufficiency of activity of the PPARa and PPARy isoforms in their role of regulating lipidaemia and glycaemia.
- 17. Use, according to Claim 16, of compounds of the formula I according to any one of Claims 1 to 13 and/or the physiologically acceptable derivatives, salts, solvates and stereoisomers thereof, including mixtures thereof in all proportions, for the preparation of a medicament for the prevention of or treating dyslipidaemia, atherosclerosis and diabetes.
- 18. Process for the preparation of a compound of the formula I according to any one of Claims 1 to 13, characterised in that a compound of the formula II:

in which

R¹, R², R³, R⁴, n and Y are as defined above for formula I, G represents -XH, in which X is S or O, NHCOCF₃ or NHR⁸, R⁸ being as defined for formula I in Claim 1; and Z° is a radical that is a precursor of Z, or alternatively Z° represents Z, Z

being as defined for formula I in Claim 1, Z° and G being in positions 2 and 3 of the phenyl nucleus;

is reacted with a compound of the formula III:

in which R⁷ and L are as defined in Claim 1 for formula I and Gp represents a leaving group, in the presence of a base.

19. Process for the preparation of a compound of the formula I according to any one of Claims 1 to 13, in which Z represents Cy, in which Cy denotes an optionally substituted aryl or heteroaryl group, characterised in that it comprises the reaction of a compound of the formula IVa:

in which D represents –NHCOCF $_3$ or –X-L-CO $_2$ R 7 , and L, R 7 , Y, X, R 1 , R 2 , R 3 , R 4 and n are as defined for formula I in Claim 1, and Hal represents a halogen atom, preferably a bromine or iodine atom, the groups -Hal and D being in position 2 or 3, with an arylboronic or heteroarylboronic acid of the formula V:

Cy
$$B(OH)_2$$
 (V)

in which the group Cy optionally bears one or more substituents, in the presence of a palladium 0 complex and a mineral or organic base.

20. Process for the preparation of a compound of the formula I according to any one of Claims 1 to 13, in which Z represents $-CH_2-\pi$, in which π represents alkyl; alkenyl; alkynyl; Cy^1 , Cy^1 being as defined for Cy in Claim 1; or $-alk^2-Cy^1$, alk^2 representing alkylene and Cy^1 being as defined above, the said process being characterised in that a compound of the formula IVa:

in which R¹, R², R³, R⁴, n, Y, X, L, R⁷ and D are as defined in Claim 18 and Hal represents a halogen atom, preferably an iodine or bromine atom, -Hal and D being in position 2 or 3,

is reacted with a compound of the formula VII

$$(\pi-CH_2-)ZnBr$$
 or $(\pi-CH_2)ZnCl$ VII

in which

 π is as defined above, in the presence of a palladium complex, such as bis(triphenylphosphine)dichloropalladium.

- 21. Process for the preparation of a compound of the formula I in which Y represents N-OH, characterised in that it comprises the reaction of the corresponding compound of the formula I in which Y = O with a hydroxylamine salt in the presence of an alkali metal salt.
- 22. Process for the preparation of a compound of the formula I in which Y represents CR¹⁰R¹¹, in which R¹⁰ and R¹¹ are as defined in Claim 1, characterised in that the corresponding compound of the formula I in which Y represents O is reacted with a compound of the formula IX

$$(C_6H_5)_3P^+CR^{10}R^{11}H, Br^-$$
 IX

in the presence of a base.

23. Compounds of the formula II:

in which

 R^1 and R^2 are chosen independently from a hydrogen atom and a C_1 - C_6 alkyl group, such as methyl; Z° represents I, Br or a C_1 - C_{10} alkyl group; and G represents –OH; -SH; -NH₂; -OCH₃; -NH-CO-CH₃; -NH-CO-CF₃, the pharmaceutically

acceptable derivatives, salts, solvates and stereoisomers thereof, and also mixtures thereof in all proportions.

24. Compounds according to Claim 23, chosen from:

2,2-dimethyl-5-n-hexyl-6-hydroxyindan-1-one;

5-n-hexyl-6-hydroxyindan-1-one;

5-n-hexyl-6-mercaptoindan-1-one;

5-iodo-6-methoxyindan-1-one;

5-bromo-6-aminoindan-1-one;

5-bromo-6-hydroxyindan-1-one;

2,2-dimethyl-5-n-hexyl-6-methoxyindan-1-one; and

5-bromo-6-trifluoromethylcarbonylaminoindan-1-one.

25. Compounds of the formula IVb²:

in which:

 R^1 and R^2 are chosen independently from a hydrogen atom and a C_1 - C_6 alkyl group, such as $-CH_3$; Hal° represents a halogen atom, such as an iodine atom; L and R^7 are as defined in Claim 1, it being understood that Hal° and -O-L- CO_2R^7 are in position 2 or 3, and the pharmaceutically acceptable derivatives, salts, solvates and stereoisomers thereof, and also mixtures thereof in all proportions.

26. Compounds according to Claim 25 in which R^1 and R^2 are hydrogen atoms; Hal° represents a bromine or iodine atom and is in position 2; and $-O-L-CO_2R^7$ is in position 3.

27. Compounds of the formula XXVIIa

$$\begin{bmatrix} R^4 \\ R^3 \\ R^1 \\ R^2 \end{bmatrix} \cap G^{\circ}$$
XXVIIa

in which

 R^1 and R^2 represent a hydrogen atom or a $(C_1\text{-}C_6)$ alkyl group or $-CH_3$; Z° is as defined in Claim 12 for formula II; and G° represents NO_2 , and the pharmaceutically acceptable derivatives, salts, solvates and stereoisomers thereof, and also mixtures thereof in all proportions.

- 28. Compound according to Claim 27, which is 5-bromo-6-nitroindan-1-one.
- 29. Compounds of the formula XX:

in which Q represents C_2 - C_{10} 1-alkynyl, preferably 1-hexynyl, and the pharmaceutically acceptable derivatives, salts, solvates and stereoisomers thereof, and also mixtures thereof in all proportions.

30. Intermediate compounds in the preparation of the compounds of the formula I, chosen from:

5-methoxy-6-trifluoromethylsulfonyloxyindan-1-one;

5-methoxy-6-bromoindan-1-one; and

5-hydroxy-6-bromoindan-1-one.